

## CLAIMS

1. A method for promoting central nervous system axon growth in a patient in need of axon regeneration comprising administering to the patient an effective amount of at least one rho protein inhibitor.
2. A method according to claim 1 wherein the patient is treated by mechanical introduction of rho protein inhibitor to the axons or their non-neuronal support tissue.
3. A method according to claim 1 wherein rho protein inhibitors are introduced by administering to the patient replication-deficient adeno, adeno-associated, or herpes viruses that express inhibitors.
4. A method according to claim 3 wherein the inhibitors are expressed in adeno viruses.
5. A method according to claim 3 wherein the inhibitors are expressed in adeno-associated viruses.
6. A method according to claims 1, 2, 3, 4, or 5 wherein the rho protein inhibitors are selected from the group consisting of rho, rac, and cdc42 inhibitors, and mixtures thereof.
7. A method according to claims 1, 2, 3, 4, or 5 wherein the inhibitor is *C. botulinum* C3 exoenzyme.
8. A method according to claim 7 wherein the patient is treated by administration of a chimeric *C. botulinum* C2/C3 inhibitor to the patient.

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a 9. A method according to claims ~~1, 2, 3, 4, 5 or 8~~<sup>1</sup> wherein the patient suffers from acute or chronic spinal cord injury.

a 10. A method according to claims ~~1, 2, 3, 4, 5, or 8~~<sup>1</sup> wherein the patient suffers from white matter stroke.

a 11. A method according to claims ~~1, 2, 3, 4, 5, or 8~~<sup>1</sup> wherein the patient is suffering from traumatic brain injury.

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B<sub>8</sub>  
12. A pharmaceutical composition for treatment of central nervous system injury comprising a rho protein inhibitor in a pharmaceutically acceptable carrier.

Sub  
C<sub>3</sub>  
13. A composition according to claim 12 which comprises *C. botulinum* C3 exoenzyme.

14. A composition according to claim 13 wherein the exoenzyme is expressed by a replication-defective adeno, adeno-associated or herpes viruses.

15. A composition according to claim 14 wherein the exoenzyme is expressed by an adenovirus.

16. A composition according to claim 14 wherein the exoenzyme is expressed by an adeno-associated virus.

Sub  
B<sub>9</sub>  
17. A composition according to claim 12 which comprises a chimeric C2/C3 *C. botulinum* exoenzyme construct.

18. A composition according to claim 17 wherein the exoenzyme construct is expressed by a replication-defective adeno, adeno-associated or herpes virus.

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19. A method for screening for the presence or absence of axon regenerative activity of a compound comprising assaying for rho protein inhibitory activity of the compound.

20. A method according to claim 19 wherein the rho protein is rac1.

add B<sub>10</sub>

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